protective layer laminated in this order on a light-transmittable substrate. Claim 1 recites that the reflecting layer is a thin film comprising silver as the major component and satisfies a relative intensity ratio of I (200)/I (111) > 0.47 when an X-ray diffraction intensity by a (111) plane is designated as I (111) and an X-ray diffraction intensity by a (200) plane is designated as I (200) in an X-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmissible substrate is set at θ.

It is respectfully submitted that the rejection is improper because the applied art fails to teach each element of claim 1. Specifically, the applied art fails to teach a thin film comprising silver as the major component and satisfies a relative intensity ratio of I (200)/I (111) > 0.47 when an X-ray diffraction intensity by a (111) plane is designated as I (111) and an X-ray diffraction intensity by a (200) plane is designated as I (200) in an x-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmissible substrate is set at θ. Thus, it is respectfully submitted that claim 1 is allowable over the applied art.

Claim 5 is directed to a method for producing an optical recording medium which includes at least a recording layer comprising an organic dye, a reflecting layer composed of a metal by a sputtering method and a protective layer laminated in this order on a light-transmissible substrate. The method includes the step of forming a thin film comprising silver as the major component and satisfies a relative intensity ratio of I (200)/I (111) > 0.47 when an X-ray diffraction intensity by a (111) plane is designated as I (111) and an X-ray diffraction intensity by a (200) plane is designated as I (200) in an x-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmissible substrate is set at θ, by controlling a sputtering gas pressure in a sputtering chamber in forming the reflecting layer by the sputtering method.

It is respectfully submitted that the rejection is improper because the applied art fails to teach each element of claim 5. Specifically, the applied art fails to teach a step of forming a thin film comprising silver as the major component that satisfies a relative intensity ratio of I (200)/I (111) > 0.47 when an X-ray diffraction intensity by a (111)

plane is designated as I (111) and an X-ray diffraction intensity by a (200) plane is designated as I (200) in an x-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmissible substrate is set at θ, by controlling a sputtering gas pressure in a sputtering chamber in forming the reflecting layer by a sputtering method. Thus, at least for this reason, claim 5 is allowable over the applied art.

Claim 4 depends from claim 1 and includes all of the features of claim 1. Claim 6 depends from claim 5 and includes all of the features of claim 5. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reasons the independent claims are allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as unpatentable over Usami et al. (U.S. Patent No. 6,341,122) in view of Matsumaru et al. (EP 0508478) or Hijikata et al. (U.S. Patent No. 5,630,886). The rejection is respectfully traversed.

Usami teaches an optical information recording medium that includes a transparent disk substrate, a recording dye layer and a light-reflecting layer arranged in this order. The transparent disk substrate is provided with a spiral pregroove. The recording dye layer is placed in the pregroove on which information is recorded by irradiation with a laser beam. The pregroove is formed in an area between an inner circle having a radius corresponding to a half of a radius of the disk substrate and an outer circle having a radius corresponding to 19/20 of the radius of the disk substrate.

Matsumaru teaches a process for forming metal film and aluminum film-coated matter. In a metal film with high reflectivity and excellent adhesion to a synthetic resin substrate is formed on a surface of the substrate by sputtering a metal target through an inert gas ion beam drawn out of an ion source in a vacuum vessel. The aluminum film-coated matter contains aluminum crystals. The aluminum crystals have a relation in which a crystal axis (111) perpendicular to a (111) plane is perpendicular or substantially perpendicular to the film surface. The aluminum crystals exhibit a diffraction x-ray spectrum of a (111) plane when measured by x-ray diffraction.

Hijikata teaches a corrosion-resistant film for protecting surfaces of silver and corrosion-resistant, composite structures. The corrosion-resistant film protects the surfaces of silver and includes a silver magnesium alloy.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claims 1 and 5. Specifically, none of the applied art, alone or in combination, teaches or suggests a thin film comprising silver as the major component that satisfies a relative intensity ratio of I (200)/I (111) > 0.47 when an X-ray diffraction intensity by a (111) plane is designated as I (111) and an X-ray diffraction intensity by a (200) plane is designated as I (200) in an x-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmissible substrate is set at θ as recited in claims 1 and 5. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. Thus, claims 1 and 5 are allowable over the applied art.

Claims 2-4 depend from claim 1 and include all of the features of claim 1. Thus, the dependent claims are allowable at least for the reasons claim 1 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as unpatentable over Kamiyama (EP 0987700 A1). The rejection is respectfully traversed.

Kamiyama teaches a device and method for manufacturing an optical recording medium having a plurality of recording layers formed on a substrate. The manufacturing device includes a vacuum pretreatment chamber, a plurality of recording layer forming chambers for forming each recording layer by vapor-depositing an organic pigment material, a reflective layer forming chamber and a vacuum post-treatment chamber. Each of the recording layer forming chambers has at least one recording layer forming unit and the reflective layer forming chamber has at least one reflective layer forming unit.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claims 1 and 5. Specifically, none of the applied art, alone or in combination, teaches or suggests a thin film comprising silver as the major component that satisfies a relative intensity ratio of I (200)/I (111) > 0.47 when an X-ray diffraction intensity by a (111) plane is designated as I (111) and an X-ray diffraction intensity by a (200) plane is designated as I (200) in an x-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmissible substrate is set at θ as recited in claims 1 and 5. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. Thus, claims 1 and 5 are allowable over the applied art.

Withdrawal of the rejection is respectfully requested.

The amendments herein are supported in the specification on page 17, bottom line-page 18, line 3, page 18, lines 14-16 and page 30, lines 7-8 and by the results of Example 7 compared with the results of Example 8.

In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

Date: November 1, 2002

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Enclosure(s): Appendix I (Marked-Up Version of Amended Claims)

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APPENDIX I

(MARKED-UP VERSION OF AMENDED CLAIMS)

1. (Amended) An optical recording medium which comprises at least a recording layer comprising an organic dye, a reflecting layer composed of a metal, and a protective layer laminated in this order on a light-transmittable substrate, wherein the reflecting layer is a thin film comprising silver as ~~a~~ the major component and satisfying a ~~relationship~~ relative intensity ratio of I(200)/I(111) > ~~0.40~~ 0.47 when an X-ray diffraction intensity by a (111) plane is designated as I(111) and an X-ray diffraction intensity by a (200) plane is designated as I(200) in an X-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmittable substrate is set at θ.

5. (Amended) A method for producing an optical recording medium which comprises at least a recording layer comprising an organic dye, a reflecting layer composed of a metal by a sputtering method, and a protective layer laminated in this order on a light-transmittable substrate, said method comprising the step of forming a thin film comprising silver as ~~a~~ the major component and satisfying a ~~relationship~~relative intensity ratio of I(200)/I(111) > ~~0.40~~ 0.47 when an X-ray diffraction intensity by a (111) plane is designated as I(111) and an X-ray diffraction intensity by a (200) plane is designated as I(200) in an X-ray diffraction spectrum measured by a θ-2θ method while an angle of incidence with reference to a surface of the light-transmittable substrate is set at θ, by controlling a sputtering gas pressure in a sputtering chamber in forming the reflecting layer by the sputtering method.

6. (Amended) The method for producing an optical recording medium

according to claim 5, wherein the sputtering gas pressure in the sputtering chamber is set within a range from a 0.23 to ~~1.00~~ 0.73 Pa.